

# Summary of the ESMF Change Review Board Meeting on June 15, 2010.

## Attendance:

Robert Ferraro/JPL, Cecelia DeLuca/NOAA/CIRES, Atanas Trayanov/NASA GSFC, Alan Wallcraft/NRL SSC, Tom Black/NOAA, Scott Sandgathe/NUOPC, Tim Campbell/NRL SSC/NUOPC, Marianna Verstenstein/NCAR  
Observing – William O’Conner/NUOPC

## Agenda

The CRB covered the following topics during its meeting:

- Comments on V5.0.0 delivery
- NUOPC requirements
- Review development status
- Update development schedule

A synopsis of the discussion and decisions from the meeting is presented below. It is organized by agenda item. These notes attempt to capture the high points of the discussions, and any decisions that resulted.

## Comments on V5.0.0 delivery

Atanas Trayanov reported that he has successfully run GEOS5 with the v5.0.0 delivery, with only minor changes in MAPL required to run. The run output was bit for bit reproducible with the prior version of ESMF used in GEOS5. This test is not exhaustive, but is indicative of real stability in the latest version.

No other experience with V5.0.0 was reported.

## NUOPC Requirements

Tim Campbell reported that the NUOPC CSC is making progress, but needs to consult with the ESMF JST before requesting changes to the ESMF development schedule. They do not anticipate requesting any major changes at this time. The JST discussions will be around issues of the Clock and Timekeeping, and Data Ownership Conventions. The discussions about Clocks might result in Applications Interface (API) changes.

There was a discussion of configuration management software. DeLuca said they would be moving to Subversion by next year. This is in response to a NUOPC decision. It could happen this summer or maybe have to wait until next spring. The change will not impact users but will impact developers who want to access specific branches of the ESMF development tree. Most ESMF users get the required software updates from tar files, and do not access the latest code updates directly, and so they do not have to see the configuration management. DeLuca explained that NUOPC wants a continuous integration strategy. They may want to get code components from several code repositories to test multiple components from different systems. There may be nightly tests of the most recent version of the NUOPC layer with other components. The software Subversion has a better functionality for code development. The configuration

management software only matters when you want continuous access to a code repository. (Outside) developers may not be given access to the ESMF code repository.

Sandgathe asked if this applied to code developers working on the NUOPC Interoperability Layer (the standard method of applying ESMF for the operational centers). DeLuca said that she would have to check with Tom Henderson on this. DeLuca said the main reasons to go to Subversion were: (1) improved functionality; and (2) continuous integration testing.

## **Development Status Review (Cecelia DeLuca)**

DeLuca reported that the conservative regridding capability implemented in ESMF is more diffusive than they expected. Additional work is needed to make the regridding locally conservative, and is ongoing. Developers are fully subscribed with the tasks on the v5.1.0 list, so the CRB did not discuss any modifications.

DeLuca has an offer from an outside collaborator to develop a PDE solver that would be integrated directly into the ESMF code base. There was a short discussion of this topic, centered around whether it is wise to include a PDE solver in the main distribution (as opposed to including it as a contributed capability). The rest of the ESMF capability is essentially model agnostic, while a PDE solver would address only a limited number of model types (and requires more expert knowledge on the user's part). It also invites users to request other solvers be incorporated in the distribution, and would place an additional burden on the development team for maintenance and support. The capability development is just starting (on a 3 year research contract from NSF?) so a decision is not required at this time. The CRB will defer this topic until the capability is more mature.

## **Adjustments to the Current Schedule**

No additional tasks were added to the current schedule, as the development team is fully subscribed with the existing task list. The v5.1.0 release was moved out to September, and the Public Release V.5.1.0 was delayed to December.

## **Next Meeting**

The next meeting is tentatively scheduled to take place in late September 2010. The CRB Chair will check with Tim Campbell in Mid August to see if the meeting needs to be moved up due to urgency resulting from NUOPC CSC requirements development.